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ABSTRACT

This report examines school funding concerns in Pennsylvania and how they affect Philadelphia schools and, to some extent, the schools of Pittsburgh. The report presents a new way to look at issues of school funding equity and adequacy by trying to link the debates over high standards and the opportunity to meet them by defining adequacy around the resources of the highest achieving, rather than highest spending, school districts. The report takes a close look at how Pennsylvania funds the Philadelphia schools and what might be considered adequate, but it does not consider issues of breaking up or taking over the schools. Findings show that Philadelphia schools are much more like schools in other large cities across the United States than they are like any other school systems in Pennsylvania except Pittsburgh and Chester-Upland. The report demonstrates the strong relationship between student achievement and poverty, race, and funding. Findings clarify the nature and locus of imbalances in resources available for educating children in Philadelphia compared with children in the suburbs and elsewhere in the state. Data show how the Philadelphia public schools spend their scarce resources, and they also show that the predictably low levels of achievement nevertheless represent substantial improvements since 1995-1996 due to many reforms instituted by the city. (Contains 9 tables, 4 figures, 21 endnotes, and 31 references.) (SLD)

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Adequate State Financing of Urban Schools

Part I: An Analysis of Funding to the Philadelphia Public Schools

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Adequate State Financing of Urban Schools

An Analysis of Funding to the Philadelphia Public Schools

Chapter I. Introduction

A. Background

Battles over state funding of public elementary and secondary education are being waged in many state legislatures and courts around the country. These battles typically pit wealthy jurisdictions against poor, large against small, and powerful against weak. At stake are billions of dollars in state education aid and future opportunities for millions of students.

Large urban school districts are inevitably at the center of these legislative battles. Most urban public school systems serve high concentrations of students living at or near the poverty line. Although these students are capable of meeting the highest academic standards, they often require supplemental educational assistance and programs to achieve at high levels. These programs are expensive and their costs are not usually covered in basic state aid packages.

While many urban centers have above-average property tax bases, their ability to raise adequate education resources through local taxation is limited by tax abatements, property tax exemptions, tax breaks brokered by local and state governments, and other limits on local taxing power. In addition, urban centers face a host of costly social and fiscal burdens that are not as prevalent in non-urban settings, such as high crime rates, housing shortages, heavy demands for social services, and high rates of homelessness and drug abuse. Moreover, many urban school buildings were built in the first half of the century to accommodate population shifts to the cities, and now must be adapted, at great expense, to modern educational programs and technologies.

The costs of government--including public schools—also tend to be high in urban areas because of higher levels of unionization, greater complexity of student needs, and denser populations. Pressing social and financial problems often drain local resources and create what is sometimes referred to as municipal or urban overburden, and this leaves fewer local revenues to address educational needs.

Urban school systems and other districts with large numbers of poor children face similar funding issues from state to state, differing only in degrees. This report will examine funding concerns in one state—Pennsylvania—and how they affect Philadelphia, and to some extent Pittsburgh, the Commonwealth's two largest cities.

The report also presents a new way to look at issues of school funding equity and adequacy. It seeks to link the now separate debates over high standards and the opportunity to meet them by defining adequacy around the resources of the highest achieving—rather than the highest spending—school districts. This reorientation in how to look at opportunity-to-learn standards, based up-to-now on the itemization of inputs, may hold new promise for determining what we need to meet rising academic standards and how we develop accountability systems for ensuring student success.

B. Purpose of This Report

This report assesses the adequacy of state funding of the Philadelphia Public Schools using a new approach for determining what schools need for all children to receive a quality public education. The report poses five questions:

1. How do poverty, race and funding affect student achievement nationally and in Pennsylvania?

2. How do the Philadelphia Public Schools compare with other major urban school districts across the country, with its suburban schools, and with other school districts in Pennsylvania; in other words, are Philadelphia's schools more like those in other cities or like those in other districts in the Commonwealth?

3. How does Pennsylvania compare with other states in its financial support of education?

4. Do the Philadelphia Public Schools have adequate resources to help students reach the highest levels of achievement that other students are reaching in Pennsylvania?

5. How much funding would be considered adequate for Philadelphia and other poor and heavily minority school districts in Pennsylvania?

The Council of the Great City Schools has prepared this report for the Philadelphia Public Schools, policymakers throughout Pennsylvania, and the general public. The leaders of the city and the school system have recently filed suit in federal court (*Powell et. al. v. Ridge),* claiming that students in the Philadelphia Public School cannot meet high academic standards without additional funding. The Commonwealth generally claims that the Philadelphia Public Schools already receive a disproportionate share of state funding and do not need more. These are longstanding issues for the Commonwealth that predate the current Administration and legislature, but which now present new opportunities to address.

This report will examine these claims. It will look at Pennsylvania's funding of the Philadelphia Public Schools, whether the state provides adequate funding to enable Philadelphia's school children to achieve at high academic levels, and how much might be considered adequate. The report does not address issues of breaking up or taking over the Philadelphia Public Schools[1].

This report concentrates on funding and spending. It presents data on the Philadelphia Public Schools, comparing them with other major city school systems across the country and with school systems in Pennsylvania. In addition, it examines how funding in the Commonwealth relates to racial demographics and patterns of poverty.

This study was conducted at the initiative of the Council of the Great City Schools as a service not only to the Philadelphia Public Schools but also to other major urban school systems across the nation facing many of the same issues presented by the Pennsylvania case. The organization hopes that the new model used here for defining adequacy will help close the disparities in funding found in public education throughout the country and help link issues of high standards and opportunity into a more coherent strategy for improving public schooling.

The findings from this report can be used not only in Pennsylvania but in other states to help answer the questions, "How much is enough? And "What is the price of excellence?" They are questions posed continuously in debates over school finance at local, state, and federal levels. Until now, however, the answers have been given without an approach that links performance, funding and accountability. This report attempts to answer some of these questions for the Commonwealth of Pennsylvania and to provide a conceptual framework by which other cities and states can think about the issues.

Chapter II. Summary of Research on School Funding, Race, Poverty and Achievement

A. How Poverty and Achievement Relate

Educational research has consistently shown a direct and negative correlation between academic achievement and poverty: the higher the poverty, the lower the achievement. The connection was most recently documented by the Office of Educational Research and Improvement within the U.S. Department of Education, in a report called *Urban Schools: The Challenge of Location and Poverty* (Lippman *et.al.*, 1996).

James Coleman (1966) first made the link between poverty and achievement over thirty years ago. His seminal study found that differences in achievement levels among schools were largely attributable to the socioeconomic backgrounds of students. Less important according to Coleman were such school variables as facilities, curricula and teacher quality--to the extent that they were well measured.

Armor (1972) and Mayer and Jencks (1989) retested Coleman's work, again concluding that schools had lesser effects on student achievement than did individual student background characteristics. Researchers have tested and retested these findings, and have agreed, in general, that schools have smaller effects on students' learning or their likelihood of attending college, if family background is held constant.

Educational research has also shown that family poverty has a particularly pernicious effect on students when it is highly concentrated. Both the original Coleman report and more recent analyses of federal Title 1 data demonstrate that individual achievement is strongly related to the educational backgrounds and aspirations of *other* students in a school. Kennedy, Jung and Orland (1986) concluded that:

> *[T]he relationship between family poverty status and student achievement is not nearly as strong as the relationship between school poverty concentrations and school achievement averages. Non-poor students attending schools with high concentrations of poor students were found to be more likely to fall behind other poor students who attend schools with small proportions of poor students.*

Abt and Associates (1993), Pelavin Associates (1990) and Anderson *et. al.* (1992) recently retested this conclusion. The Abt report confirmed that average student achievement declines as school poverty increases. Using data from the National Education Longitudinal Study of 1988, the Pelavin analysis concluded that each 10 percent increase in the concentration of student poverty resulted in a small, but significant, decrease in math achievement for the average student. The Anderson study, looking at the same data from a different perspective, found that low-income students attending schools with lower concentrations of poverty achieved at higher average rates than did low-income students in schools with higher concentrations of poverty.

Analyses of National Assessment of Educational Progress (NAEP) results corroborate the detrimental effects of poverty. Results of the NAEP-92 Trial State Assessment in mathematics showed that 89% of the variation in state average test scores could be explained by the combined effects of four demographic variables: number of parents living at home, parents' education, community type, and poverty rates (ERS, 1994). Poverty alone accounted for 56% of the variance.

Brooks-Gunn and Duncan (1997) have also demonstrated persuasively how dramatic the effects of poverty are on the general well-being of children. Poor physical health and nutrition, stunted cognitive development, poor school achievement, and greater emotional difficulties can stem from poverty, particularly if it is long-term, deep and early in life. They conclude that—

> *For low-income children, a $10,000 increase in mean family income between birth and age 5 was associated with nearly a full-year increase in completed schools.*

Statistical surveys also make crystal clear that cities are the places where poverty is most concentrated. A 1994 survey by the U.S. Department of Education found that 44% of urban students across the country were eligible for a free or reduced price school lunch (based on family income), compared with 30% of rural students and 23% of suburban children. A reanalysis of data collected by *Education Week* (1998) showed that nearly 65% of the students enrolled in major urban school districts were eligible for a free or reduced price lunch, compared with 39% of all students in the nation (with urban students included in the national totals).

Does the evidence mean that schools do not make a difference? No. Schools can make a huge difference. Since *A Nation At Risk* was published in 1983, educational reforms everywhere have been devoted to creating schools that overpower the effects of poverty. Those efforts have focused on setting higher standards for what children should know and be able to do as a result of their schooling. Lately, however, greater attention has been given to how all students can meet the same high standards when they do not have the same opportunities. Schools make a huge difference. But they make the biggest difference when they are equipped to overcome the barriers of poverty, discrimination, and disability rather than being reflections of society's inequities.

The weight of the research is clear: poverty lowers average achievement. It does not mean that poor children cannot learn. It does mean that low-income children do not have access either at home or in school to materials and activities that enrich their learning. Educators and policymakers should take into account the research on poverty and similar factors when they assess the performance of the Philadelphia Public Schools and devise a formula for funding them.

B. How Race and Achievement Relate

Few topics in American society are as controversial or as misunderstood as the relationship between race and student academic achievement. But the research over the years has been straightforward and conclusive: there is no singular relationship between the race of a student and his or her cognitive capacities.

Still, the research is equally clear that racial minorities in elementary and secondary schools often achieve at lower levels than their majority peers; that teachers often expect less from students of color; and that urban public schools are more likely than most other kinds of school districts to serve students who belong to a racial or ethnic minority group or who have not yet learned English.

A 1994 report by the Council of the Great City Schools, *National Urban Education Goals: 1992-93 Indicators Report*, revealed substantial racial gaps among the standardized achievement scores of students in the nation's largest urban public school systems. Only 31.3% of grade K-6 African American students in urban schools, for instance, scored above the 50th percentile in reading, as did only 32.0% of Hispanic students and 40.3% of Asian American students, compared with 60.7% of white students. The report found similar reading score patterns in grades 7-8 and 9-12. Math scores showed the same general patterns, except that Asian American students scored at levels comparable to whites in the early grades.

There are similar disparities in ACT scores in major city public schools, according to a 1998 analysis by ACT, Inc. and the Council of the Great City Schools. This study showed that African American, Latino and Native American students had ACT scores below national and urban averages, which was not the case for Caucasian students.

Results on the National Assessment of Educational Progress (NAEP) also show racial gaps. Only 32% of African American fourth graders across the country and 41% of Hispanic fourth graders achieved scores at or above the basic level on the NAEP math test, compared with 76% of whites. The gaps are comparable in reading and in both the 8th and 12th grades.

Longstanding research by Rosenthal (1992) traces these patterns not only to differences in resources but also to lower expectations that teachers often hold about students of color, which in turn shape how

well and how much children learn. Race, socioeconomic status, oral language patterns and past test results often affect how teachers perceive student capabilities.

These achievement gaps have particular significance for urban public schools, which are more likely to enroll racial minority students than either suburban or rural schools. As noted in the U.S. Department of Education report *Urban Schools: The Challenge of Location and Poverty* (Lippman et.al., 1996), urban public schools have markedly higher percentages of African American and Hispanic students and substantially lower percentages of white students than suburban schools, rural schools or the national average.

Finally, the Lippman report (1996) highlights the notable racial differences between high-poverty and low-poverty schools. High-poverty schools in every part of the country have higher enrollments of minority students than low-poverty schools, but urban high-poverty schools are more likely to enroll minority students than high-poverty schools in suburban or rural areas. In urban areas, 69% of students in high-poverty schools belonged to a racial minority group compared with 26% in low-poverty schools. In suburban areas, 56% of students in high-poverty schools were minority compared to 10% in low-poverty schools. And in rural areas, 35% of students in high-poverty schools were minority compared with 9% in low-poverty schools.

The significance of race in the academic achievement of students rests not in skin color *per se* but in larger, historic patterns of discrimination and low expectations, which have resulted in fewer resources for students of color than for white students.

C. How Funding and Achievement Relate

Educational research on school finance is more ambiguous than research on poverty or race and achievement. One can find poor but high-achieving schools and wealthier low-achieving schools, just as one finds high-achieving poor children and low-achieving rich ones, and high-achieving African American children and low-achieving white students. Although examples of each extreme characterize much of the public debate about school finances, the vast middle ground holds something closer to the truth. Recent work by the Brookings Institution attempts to shed some light on the topic with the book, *Does Money Matter? --The Effect of Student Resources on Student Achievement and Adult Success* (Burtless, 1996).

According to the Brookings study, research on the relationship between school resources and educational attainment tends to fall into two categories: studies of students' attainment while in school, and more recent studies of their attainment in the labor market after graduation. Although smaller, this second line of research has yielded some interesting and relatively clear-cut findings. Burtless (1996), for example, notes:

> *Most of the early economic research on this question concluded that resource-rich schools produce graduates who earn more than graduates from schools where resource endowments are meager. That is, if two adult workers attended school for the same number of years, the worker educated in a richly endowed school is likely to earn more than the worker educated in a less well-endowed school.*

Other analysts caution that this conclusion may be preliminary--although not necessarily false.

The first line of research, which focuses on the relationship between resources and achievement for students still in school, tends to be more polarized. One camp finds no relationship between resources and in-school achievement, while another argues there is. Chubb and Hanushek (1990), who represent the first camp, contend--on the basis of their review of some 377 finance studies--that the relationship between spending and achievement is tenuous at best. They conclude, "There appears to be no strong or systematic relationship between school expenditures and student performance." Hedges, Laine and Greenwald (1994), on the other hand, reanalyze the same data and find that: "...a $500--or roughly 10 percent--increase in

average spending per pupil would increase student achievement by 0.7 standard deviations, a meaningful amount."

This debate about funding and achievement goes to the core mission of American public education. In addition to producing an educated citizenry and transmitting the nation's cultural values, public schools in the U.S. have sought to transcend barriers of poverty and family background to create a level playing field on which children can begin competing as adults. Thus, a key question is: Are schools meant to perpetuate current inequities or to erase them? The answer to this question is central to the portents of a democratic meritocracy.

The unevenness of the current playing field is illustrated by data on family spending compiled by the U.S. Department of Agriculture (1997). A family with an average annual income of $86,700 in 1996 spent some $220,860 on each of their children between birth and age 17; $18,630 of this went toward education and day care. A family with an average annual income of $21,500 spent some $117,090 on each of their children aged 0-17; only $6,210 of this went toward education and day care. Thus, the higher-income family spent about three times as much as the lower-income family on such education-related activities as visits to museums, toys, home computers, software, books and trips. These figures do not include family spending on children for health care, nutrition, housing or clothing, although research suggests that these also relate indirectly to student achievement.

An actual example may help to illustrate the point. The median 1990 household income in Philadelphia was $24,603. The average per pupil expenditure in the Philadelphia Public Schools was $5,837 that year. By contrast, the median 1990 household income in Lower Merion—a suburb of Philadelphia—was $60,769. And the average per pupil expenditure in the Lower Merion Public Schools was $9,234 (National Center for Education Statistics, 1993). Using the assumptions developed by the U.S. Department of Agriculture, one finds that the average child in Lower Merion can expect to have about $42,900 more spent on his or her schooling by age 17 than the average child in Philadelphia. (A more detailed analysis for each of Philadelphia's suburbs can be found in Table 4.)

Common sense suggests that the child in the more affluent family will be exposed to more enriching educational experiences than the child in the lower-income family. This is not the kind of statistically unambiguous relationship prized by researchers, but it is one known by parents. Many middle and upper middle class parents understand the relationship when they spend $12,000 to $15,000 in private school tuition. Families who want the best for their children and have the wherewithal to provide it know that money matters. They exercise that knowledge in their willingness to spend more on private schools.

When disparities in school funding exist on top of disparities in family income, it becomes clearer why there are such profound gaps in achievement between students from poorer backgrounds and those from wealthier homes, and between racial groups when one is poorer than the other.

Most research on educational finance attempts to correlate school spending to test scores without looking at such factors as family and background or analyzing how these kinds of disparities in family expenditures affect educational activities. Those studies that do include family background normally look at poverty rather than investment. It is not surprising that weak statistical correlations are so often found between the two variables when there are so many other factors at play.

Overall, research on funding, race, poverty and achievement shows both direct and indirect effects, varying in strength according to the design of the studies, the factors included and not included, and probably the biases of the investigators. Failure of some studies to show the links among these variables may have more to do with inadequate research designs than with the connections among funding, race, poverty and achievement in the real world.

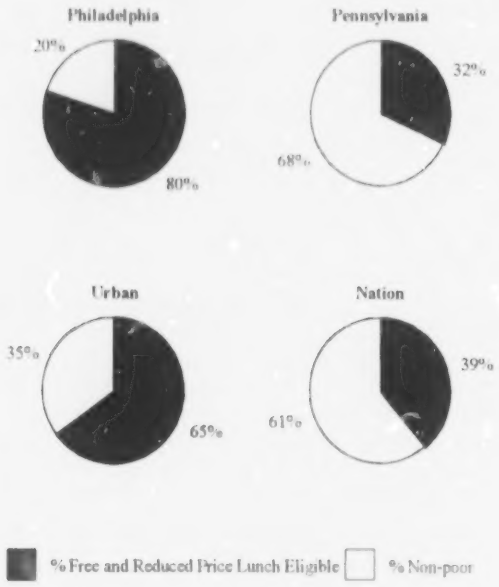
Chapter III. Comparing the Philadelphia Public Schools

Philadelphia has charged that the Commonwealth of Pennsylvania has established a system of public education that is inherently discriminatory against minority students in the city and state. This chapter and the subsequent one seek to analyze these issues by comparing the Philadelphia schools with others in terms of funding, racial demographics, poverty, and performance. These comparisons are meant to help determine whether the Philadelphia schools face challenges like those of others in the Commonwealth, or whether the city has unique circumstances warranting special consideration by the state, the court and the public.

A. Comparing Philadelphia with Other Major Cities

In key respects, Philadelphia's public schools are far more like other large city public school systems across the country than like other districts in Pennsylvania. Figure 1 contrasts the levels of free and reduced price lunch eligibility, for instance, with other major urban districts, with the state of Pennsylvania and with national averages. Table 1 compares Philadelphia's rates of poverty, limited English proficiency, special education, minority enrollment and funding with those of other large urban public school systems elsewhere in the nation.

Figure 1. Comparison of Poverty Levels[2]



On average, 65% of students in urban public school systems across the nation were from families with incomes low enough to be eligible for a free or reduced price federal lunch subsidy—with rates ranging from 89.4% in San Antonio to 25.2% in Oklahoma City. Philadelphia ranks near the high end of this range with approximately 80.0% of its students qualifying for free or reduced price lunches. Few major urban school systems in the country (Oklahoma City and Portland) have a free and reduced price lunch eligibility rate that is at or below the national average, as gauged by school lunch eligibility[3].

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Table 1. Comparison of Philadelphia with Other Major City School Districts (1995-96)

	Free/Reduced Rate	LEP Rate	Disability Rate	Minority Rate	Adequacy Index[4]
Atlanta	71.8%	1.9%	7.3%	93.4%	0.74
Birmingham	65.1	0.3	11.0	93.6	NA
Broward Cnty	39.3	7.1	14.0	51.0	1.33
Buffalo	80.7	5.3	13.6	65.7	0.50
Chicago	81.7	12.8	4.3	88.4	0.57
Cleveland	71.6	4.8	12.9	79.7	0.38
Columbus	52.4	11.9	1.0	58.2	0.51
Dade County	58.5	15.3	13.0	85.8	0.93
Dallas	70.8	30.9	9.1	88.1	0.68
Detroit	87.5	4.7	6.4	94.5	0.38
El Paso	66.3	30.3	8.7	81.6	0.66
Fresno	61.5	32.2	10.6	76.3	0.58
Houston	65.0	27.0	10.5	88.7	0.73
Long Beach	64.0	36.8	2.1	62.5	NA
Milwaukee	73.0	3.7	13.7	78.6	0.38
Minneapolis	50.3	12.8	13.7	63.6	0.56
Nashville	54.7	0.0	4.0	45.8	1.04
Newark	82.0	9.7	6.6	91.4	0.36
Norfolk	63.6	0.4	5.7	67.7	0.49
New York City	62.9	17.8	7.4	83.5	0.61
Oklahoma City	25.2	9.6	14.6	62.2	0.50
Omaha	44.2	2.8	15.9	39.1	1.08
New Orleans	84.2	1.8	13.6	94.2	0.72
Philadelphia	80.0	4.2	10.3	79.6	0.38
Pittsburgh	60.0	0.5	12.0	57.1	0.53
Portland	38.2	7.5	11.4	31.2	0.80
Richmond	59.2	0.0	16.0	91.1	NA
Rochester	75.8	8.6	19.2	80.1	0.75
San Antonio	89.4	89.9	17.9	94.9	NA
San Diego	58.1	27.4	9.8	70.0	0.69
San Francisco	60.6	30.5	9.1	86.9	1.00
Seattle	41.4	8.1	10.2	58.7	0.86
Tucson	55.0	14.3	9.5	53.5	0.65
Washington	70.7	6.1	8.9	96.0	1.00
Urban	64.9	16.0	9.0	75.2	NA

Source: *Education Week* and the Council of the Great City Schools

Philadelphia departs from typical urban demographics in its lower enrollments of English Language Learners. About 16% of urban school students nationally were learning English as their second language, a rate almost three times the national average. The percentage of English Language Learners in urban schools ranges from 89.9% in San Antonio to near 0 in Nashville and Richmond. At 4.2% of enrollment, Philadelphia has considerably fewer limited English proficient students than most other urban school systems—a rate closer to the national average of 5%[5].

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Philadelphia is similar to other urban school systems—and to the national average for all systems—in its percentage of students with disabilities, 10.3%. Other major urban public school systems range from 17.9% in San Antonio to about 1.0% in Columbus. Although the percentage enrollment of children with disabilities is about the same in urban school systems as the national average, urban schools tend to enroll students with more severe and costly disabilities, while suburbs often have greater percentages of students with lower-cost learning disabilities or attention deficit disorders.

With a minority student enrollment of 79.6%, the racial composition of the Philadelphia Schools is typical of other major urban public school systems, which range from 96% minority in Washington D.C. to 31.2% in Portland (OR). Only three major urban school systems of those listed in Table 1 are majority white (Nashville, Omaha and Portland). On average, the Great City Schools enroll 75.2% African American, Hispanic, Asian American and other students of color.

Size, of course, is the most obvious similarity between Philadelphia and other major city school systems across the country. Philadelphia had an average daily membership (ADM)[6] of 212,881 students in 1995-96, larger than the average enrollment of 125,000 students for the average Great City School district. The average school district's enrollment in Pennsylvania was considerably smaller—3,562 students in 1995-96.

Table 1 also presents an "Adequacy Index" for state funding for major city school districts across the country. This index shows whether a particular urban district receives a share of state funding commensurate with that city's share of the state's poor school children. An index of 1.0 indicates that the city school system garners the same share of the state's total spending on K-12 public education as that city's share of all poor public school children in the state. The higher the index over 1.0, the more the school system receives relative to its poverty. The lower the index under 1.0, the less the school system receives relative to its poverty[7]. The reader might note from Table 1 that two of the three major urban school districts with majority white enrollments have an "Adequacy Index" above 1.00; and conversely, two of three urban school systems with indices above 1.00 are majority white.

Philadelphia's Adequacy Index is .38, the same as Cleveland, Detroit, and Milwaukee[8]. In other words, the Philadelphia Public Schools receive about 38% of the state funding they would otherwise acquire if the Commonwealth distributed all its K-12 education revenues on the basis of poverty alone. Pittsburgh has an index of .53. Data from *Education Week* (1998) corroborate this disparity by showing that Philadelphia enrolls 12% of the state's public school children and 33% of the state's poor students, yet receives about 14.6% of the state's FY94 K-12 expenditures (p.233). Subsequent chapters of this report will expand on Philadelphia's state funding relative to its poverty and other factors.

Comparing Philadelphia with other major city school districts provides an important national context for the issues in the Pennsylvania case. The Philadelphia Public Schools face challenges unlike those of any system in the Commonwealth, save Pittsburgh, and more like those of big city schools in other states, in terms of size, funding and racial composition. Moreover, the funding problems faced by Philadelphia are not unique to Pennsylvania. Most cities have inadequate revenues and operate in states with funding dynamics similar to Pennsylvania. Poor school systems and school districts with enrollments that are majority minority often receive funding levels below their statewide averages.

B. Comparing Philadelphia with Others Statewide

This section compares and contrasts the Philadelphia Public Schools with other local educational agencies (LEAs) in the Commonwealth of Pennsylvania. Table 2 presents data on Philadelphia and the state using many of the same variables in Table 1. Table 2 demonstrates clearly how different Philadelphia is from the rest of Pennsylvania.

Table 2. Comparison of Philadelphia with Others Statewide (1995-96)

	Free/Reduced Rate	LEP Rate	Disability Rate	Minority Rate	Per Pupil Expenditure
Pennsylvania w/ Philadelphia	31.7%	1.2%	10.7%	19.4%	$7,260
Pennsylvania w/o Philadelphia	22.2%	0.7%	9.4%	10.0%	$7,314
Philadelphia	80.0%	4.2%	10.3%	79.6%	$6,860

Source: Pennsylvania Department of Education

With a free and reduced price lunch eligibility rate of some 80%[9], the Philadelphia Public Schools have more than three times the statewide rate of 22.2%. Only two other LEAs in the state have greater free and reduced price lunch eligibility rates. Wilkinsburg at 86% and Duquesne City at 85%. Together these two districts enroll about 2,770 children. Only two others come close to Philadelphia's rate, with poverty over 70% (Aliquippa, 78%; and Farrell, 71%, with a combined enrollment of about 3,094 children).

The percentage of English Language Learners in Philadelphia, 4.2%, is low by urban school standards but about six times higher than the Pennsylvania rate of 0.7%. Only eight of the 499 other LEAs in the Commonwealth have limited English proficiency rates at or above those of Philadelphia's (Bethlehem, 12.2%; Reading, 8.2%; Allentown, 7.9%; Lancaster, 7.4%; York, 5.1%; Lebanon, 4.6%, Oxford, 4.3% and Kennett Consolidated, 4.2%). The rate for Harrisburg is 4.1%.

Philadelphia has a special education enrollment of 10.3%, not much higher than the rest of the state, 9.4%. But Philadelphia's rate of children with severe disabilities, at 0.96%, is one of the higher rates in the state. Only 95 (19%) of the state's 500 LEAs have higher rates of the severest disabilities than Philadelphia. The total number of such children in those 95 LEAs is 3,979 (excluding Pittsburgh) compared to Philadelphia's total of 2,032 (Pennsylvania Department of Education, 1997).

The Philadelphia Public Schools enroll substantially higher percentages of African American, Hispanic and other students of color than most any other school system in the Commonwealth. Some 79.6% of Philadelphia's students are minority in contrast to the statewide average of 10.0% (not counting Philadelphia). Only fourteen districts in the Commonwealth have a student enrollment that is majority minority.

Finally, Philadelphia's total funding per pupil (i.e., expenditures per ADM) of $6,860 was substantially below the 1995-96 average of $7,260 for the rest of the state. This amounts to a difference of $400 per pupil, according to data compiled by the State Department of Education—without adjusting for differences in need. Nearly 65% of the LEAs in the Commonwealth were also below the statewide average of $7,260 in 1995-96.

Philadelphia's public schools are very different, then, from other school systems in the state in size, composition and funding. The next section will compare the Philadelphia School District with LEAs in its surrounding suburbs.

C. Comparing Philadelphia with Its Suburbs

Philadelphia differs still more from its suburbs than from other local educational agencies in the Commonwealth. This set of comparisons is important because the city must compete with its suburbs for teachers, for public confidence, for businesses and residences, and for an adequate share of statewide resources. Philadelphia has 27 votes in the State House of Representatives, one of which is shared with Delaware County; and seven votes in the State Senate, three of which are shared with suburban counties.

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By contrast, Philadelphia's four suburban counties (Bucks, Chester, Delaware and Montgomery) have 41 members in the House and fifteen in the Senate. Table 3 presents the comparisons.

Table 3. Comparison of Philadelphia with Its Suburbs (1995-96)

	Free/Reduced Rate	LEP Rate	Disability Rate	Minority Rate	Per Pupil Expenditure
Bucks County					
Bensalem Township	21.6%	1.3%	12.5%	20.0%	$8,577
Bristol Borough	41.8	0.0	16.0	34.5	7,893
Bristol Township	30.0	0.0	16.2	19.5	8,319
Centennial	12.9	1.3	11.3	12.2	8,540
Central Bucks	2.8	0.3	8.2	4.2	7,572
Council Rocks	1.9	0.4	10.0	3.3	8,785
Morrisville Brgh	7.2	0.6	13.5	31.7	9,546
Neshaminy	10.0	0.6	13.9	5.0	8,992
New Hope	2.6	0.0	7.8	2.8	10,093
Palisades	9.2	0.2	11.7	2.0	9,429
Pennridge	12.0	0.6	9.8	2.8	7,477
Pennsbury	13.2	1.9	23.2	7.6	8,395
Quakertown	16.0	0.1	9.4	2.9	7,411
Chester County					
Avon Grove	9.9	1.9	8.6	10.9	6,600
Coatesville	28.6	0.0	11.8	33.8	7,382
Downington	3.1	0.3	9.0	5.8	7,084
Great Valley	5.5	0.0	9.0	7.2	9,917
Kennett Consolidated	22.1	4.2	7.5	24.8	7,433
Octorara	5.6	1.3	11.7	7.2	7,403
Owen J Roberts	10.0	0.1	6.2	3.4	9,003
Oxford	27.0	4.3	10.1	15.2	6,989
Phoenixville	15.5	0.7	9.5	11.5	8,560
Tredyffrin-Easttown	3.8	1.4	8.0	9.0	10,694
Unionville-Chadds Ford	46.1	0.0	7.7	3.5	9,118
West Chester	7.8	0.8	8.6	15.4	7,898
Delaware County					
Chester-Upland	65.5	3.5	12.8	92.7	7,145
Chichester	39.4	0.2	23.6	10.3	8,320
Garnet Valley	4.6	0.3	10.1	2.9	9,073
Haverford	3.9	1.5	11.6	6.6	7,846
Interboro	19.7	0.0	13.7	2.5	7,862
Marple Newtown	2.9	1.0	14.5	9.0	8,900
Penn Delco	42.1	0.4	12.9	2.4	7,601
Radnor	4.8	2.2	11.8	14.4	12,581
Ridley	19.9	0.2	9.1	7.3	7,158
Rose Tree Media	6.0	0.2	11.7	11.0	9,663
Southeast Delco	45.3	0.0	6.7	30.5	7,565
Springfield	4.2	0.1	11.4	8.3	8,242

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Upper Darby	NA	1.6	8.6	17.8	7,031
Wallingford	6.1	0.0	12.1	10.4	6,726
William Penn	45.8	0.4	16.7	64.3	8,287
Montgomery Cnty					
Abington	10.2	0.0	6.9	21.2	9,110
Cheltenham	5.2	1.8	8.1	38.8	9,444
Colonial	16.1	0.0	12.1	14.8	9,885
Hatboro-Horsham	8.2	0.5	8.9	10.0	9,035
Jenkintown	5.3	0.0	10.7	5.6	10,287
Lower Merion	5.5	0.9	13.8	12.2	11,056
Lower Moreland	1.6	0.9	9.6	7.5	10,517
Methacton	6.1	0.6	10.7	6.2	8,844
Norristown ASD	45.2	2.9	16.0	49.7	9,540
North Penn	9.4	2.0	10.6	13.3	8,256
Perkiomen	13.0	0.0	0.9	4.6	8,097
Pottsgrove	14.2	0.1	9.1	12.6	7,960
Pottstown	39.1	1.6	15.8	34.5	7,445
Souderton	7.3	0.8	10.5	6.6	7,636
Springfield	4.4	0.3	10.8	12.1	9,688
Spring-Ford	9.6	0.5	13.1	3.9	7,845
Upper Dublin	7.2	0.0	7.6	15.7	9,087
Upper Merion	10.3	0.7	11.1	13.8	11,761
Upper Moreland	11.1	0.4	26.1	8.9	8,103
Upper Perkiomen	12.5	0.0	8.7	3.3	7,588
Wissahickon	5.0	0.9	11.3	22.4	10,962
Suburbs	14.7	0.9	11.2	15.8	$8,425
Philadelphia	80.0	4.2	10.3	79.6	$6,860

Source: Pennsylvania Department of Education

First, the data show substantial differences between Philadelphia and its surrounding counties and their LEAs in their percentages of poor children. The average free and reduced price lunch eligibility rate of the school districts located in Philadelphia's four suburban counties was 14.7% in 1995-96, compared with the city's rate of 80%. Only Chester-Upland has poverty and other demographic characteristics that approximate Philadelphia's. Just nine (Bristol Borough, Chester-Upland, Chichester, Penn Delco, Southeast Delco, William Penn, Norristown ASD, Unionville-Chadds Ford and Pottstown) of the 61 LEAs in the four counties have free and reduced price lunch eligibility rates higher than the statewide average (31.7%); and six of those nine have minority enrollments in excess of the statewide average (19.4%).

Second, Philadelphia has substantially higher numbers and percentages of limited English proficient children (4.2%) than the suburban schools (0.9%). Only Oxford, with an average per pupil spending of $6,989, has a higher percentage of LEP students (4.3%). And only 24 of the 61 (39.3%) surrounding LEAs had LEP rates at or above the statewide average of 0.7%.

Third, the percentage of students with disabilities in the Philadelphia Public Schools is about the same as the average rate in the surrounding suburbs (10.3% vs. 11.2%).

Fourth, Philadelphia has higher percentages of students of color than its suburbs. As indicated previously, some 79.6% of Philadelphia's students are African American, Hispanic, Asian American or

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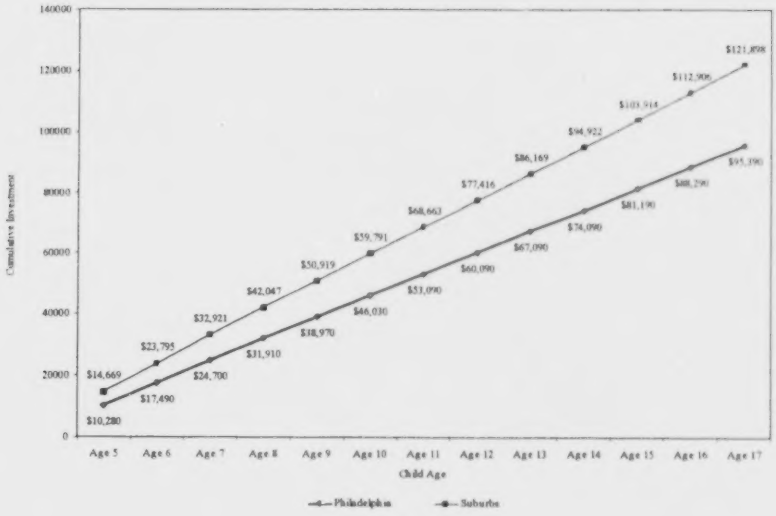
other students of color, compared with an average 15.8% in the surrounding counties. Only 14 of the 61 (23.0%) surrounding LEAs have minority student enrollments that exceed the statewide average of 19.4%; and only three of these are majority minority.

Finally, there are substantial disparities in per pupil spending between the Philadelphia Public Schools and their surrounding suburbs. Philadelphia spent an average of $6,860 on the education of each of its children in 1995-96, in contrast with a suburban average of $8,426 for the same year—a difference of $1,566 per child. The difference is equivalent to $39,150 a year for every class of 25 students—enough to provide a teacher's aide and five computers for every classroom in the city—or to $783,000 for an average school with 500 pupils. Only one of the 61 surrounding school systems had per pupil expenditures lower than Philadelphia's (Avon Grove).

Figure 2 and Table 4 shows the combined effect over time of differences in school spending per pupil, and family education spending per child (using assumptions developed by the U.S. Department of Agriculture). By the time the average child in the Philadelphia suburbs graduates from high school, about $26,508 more will have been spent on that child's education by the schools and the family combined, than will have been spent on the average child in Philadelphia—enough to pay for almost four more years of schooling.

Figure 2. Accumulated Difference in Per Child Investments in Philadelphia and Its Suburbs



Even by the end of first grade, the difference in the accumulated educational investment between the average child in Philadelphia and in its suburbs would be $6,305—the equivalent of almost a year of schooling. By age 9, the investment gap has grown to almost two extra years worth of schooling; and by high school graduation, the gap is the equivalent of nearly four years. These gaps are at the heart of differing levels of opportunity in the Commonwealth, and undercut the state's efforts to create a level playing field for each child.

In summary, the data show that the needs of students attending the Philadelphia Public Schools are far greater than those of students in the surrounding suburbs. And the data are equally clear that there are substantially different levels of resources available to the students in each setting to meet those needs.

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Table 4. Combined School and Family Educational Spending on the Average Child in Philadelphia and Its Suburbs (1995-96)

	Average Philadelphia Child			Average Suburban Child			Cumulative Difference
Child Age	Family	School	Total	Family	School	Total	
Birth	530	0	530	985	0	985	455
Age 1	530	0	530	985	0	985	910
Age2	530	0	530	985	0	985	1,365
Age 3	610	0	610	1,096	0	1,096	1,851
Age 4	610	0	610	1,096	0	1,096	2,337
Age 5	610	6,860	7,470	1,096	8,426	9,522	4,389
Age 6	350	6,860	7,210	700	8,426	9,126	6,305
Age 7	350	6,860	7,210	700	8,426	9,126	8,221
Age 8	350	6,860	7,210	700	8,426	9,126	10,137
Age 9	200	6,860	7,060	446	8,426	8,872	11,949
Age 10	200	6,860	7,060	446	8,426	8,872	13,761
Age 11	200	6,860	7,060	446	8,426	8,872	15,573
Age 12	140	6,860	7,000	327	8,426	8,753	17,326
Age 13	140	6,860	7,000	327	8,426	8,753	19,079
Age 14	140	6,860	7,000	327	8,426	8,753	20,832
Age 15	240	6,860	7,100	566	8,426	8,992	22,724
Age 16	240	6,860	7,100	566	8,426	8,992	24,616
Age 17	240	6,860	7,100	566	8,426	8,992	26,508

Source: U.S. Department of Agriculture and Council of the Great City Schools

D. Comparing Philadelphia's Expenditures

An examination of how Philadelphia spends its resources in comparison with other school systems might reveal differences that could explain the relative achievement levels of its students. Unfortunately, Pennsylvania does not publish detailed expenditure data on its LEAs in order to compare Philadelphia's expenditures with other school districts in the state or with nationwide averages. Data from the Educational Research Service does allow spending comparisons between Philadelphia and other major urban school systems and with national averages. These comparisons provide a rudimentary look at whether spending patterns in Philadelphia might explain any differences in achievement levels described in the next section of this report.

Table 5 compares basic per pupil spending patterns in Philadelphia with the average in other major cities and with national averages. Data are shown by type of expenditure and by revenue source[10]. Expenditures encompass all current expenditures by category and all noncurrent spending, including debt service and capital expenditures. Revenues are dissaggregated by local, state and federal sources, including tax and nontax receipts. And salaries and benefits are separately reported for central office, school site and teaching staff.

Table 5 shows that the pattern of expenditures in Philadelphia is actually quite similar both to other major urban public school systems across the country and to national averages. Ballou (1998) also noted this similarity in how urban schools spend their resources compared to how the average school system nationally spends its resources when he analyzed school expenditure data from the National Center for Education Statistics.

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Table 5. Comparison of Philadelphia's Per Pupil Spending (1995-96)

Budget Category	Philadelphia Average	Urban Average	National Average
Total Current Expenditures	$6,282.02	$6,107.75	$5,915.37
Total Instructional Expenditures	4,814.77	4,213.92	4,106.54
Classroom Instruction	3,688.48	2,898.89	2,963.04
Books & Materials	195.34	201.58	161.46
Auxiliary Instructional Services	188.62	212.16	253.25
Curriculum Development & Improvement	153.86	376.52	91.11
Special Education	[11]	455.39	574.04
School-Site Leadership	180.50	344.00	323.34
Student Services	348.73	463.79	438.84
Health & Attendance	126.09	135.21	101.02
Transportation	151.50	261.29	252.82
Food Services	3.03	15.38	13.95
Student Activities	0.00	30.86	60.20
Board of Education	17.37	21.76	34.01
Executive Administration	57.91	72.34	99.49
Central & Business Services	69.71	191.08	151.90
Maintenance & Operations	471.59	516.42	473.11
Environmental Conditioning	209.67	141.79	150.00
Other Current Expenditures	111.74	144.06	138.44
Capital Outlay	[12]	144.06	138.44
Debt Retirement	215.62	111.63	182.62
Interest on Debt	116.54	112.43	135.82
Total Expenditures	6,614.19	6,846.99	6,649.29
Total Revenue Receipts	6,454.79	6,203.94	6,042.36
Total Local Revenue Receipts	2,613.83	2,514.52	3,154.69
Local Revenue on Property Tax	2,253.92	2,060.89	2,783.19
Local Revenue on Other Taxes	276.33	253.49	204.49
Local Revenue on Nontax Sources	83.57	200.12	166.99
Intermediate Revenue Receipts	5.31	113.15	41.96
Local Plus Intermediate Revenue	2,619.14	2,627.67	3,196.65
Total State Revenue Receipts	3,832.19	3,172.32	2,650.64
Total Federal Revenue Receipts	[13]	403.93	195.10
Nonrevenue Receipts	40.90	28.30	19.02
Current Expenditure Funds Available	7,046.48	6,470.97	6,382.96
Income to Capitol Outlay Fund	28.70	402.84	192.35
Income to Debt Service Fund	358.55	189.60	205.85
Salaries, Retirement & Fringe All Staff	5,384.11	4,879.29	4,735.69
Salaries, Ret & Fringe Central Office	74.33	150.14	147.44
Salary, Retirement & Fringe School Site	180.49	2,865.47	3,088.87

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Salary, Ret & Fringe Classroom Teachers	3,423.85	3,088.87	3,144.98
Salary, Ret.& Fringe Auxiliary Prof	593.36	446.30	364.63
Salary, Ret.& Fringe Support Staff	1,112.19	943.83	832.43
Salaries All Staff	3,918.13	3,903.40	3,783.17
Salaries Central Office	54.09	117.10	118.56
Salaries School Site Leadership	131.34	201.21	185.58
Salaries Classroom Teacher	2,491.60	2,485.99	2,535.15
Salaries Auxiliary Professional	431.80	350.17	294.16
Salaries Support Staff	809.27	748.89	648.33

Source: Educational Research Service

Total unadjusted per pupil expenditures for the Philadelphia Public Schools equaled $6,614.19[14] in 1995-96, compared with $6,846.99 for the average large urban school system and $6,649.29 for the national average. Philadelphia devoted a somewhat larger share of its funds ($6,282.02) to total current expenditures (i.e., expenditures directly allocable to student activities) than either the average large city school system ($6,107.75) or the national average ($5,915.37).

In addition, Philadelphia spent somewhat more for instruction than either the urban or national averages, generally reflecting higher costs for retirement and fringe benefits for a more senior teaching force. Salaries for all staff in Philadelphia ($3,918.13 per pupil) were comparable to other cities nationwide ($3,903.40 per pupil) but somewhat higher than the national average ($3,783.17 per pupil). Retirement and fringe benefits in Philadelphia added $1,465.98 per pupil to school system expenses, compared with $975.89 in other cities and $952.52 nationally, a situation that has improved since 1995-96 with the state picking up a greater share of Philadelphia's retirement expenses and with new city employees being moved to managed health care.

Philadelphia also spends somewhat more than the national average ($209.67 versus $150.00) on "environmental conditioning", which includes heating, cooling and all other utilities except telephone. This difference is due largely to the older age of the city's school buildings.

Philadelphia's expenditures per pupil for the Board of Education ($17.37), Executive Administration ($57.91) and Central Office ($69.71) services were somewhat below big city school averages and considerably below national averages. Those combined expenditures in Philadelphia ($144.99 per pupil) are only half that of the average school system nationally ($285.40). In addition, the Philadelphia Public Schools spend considerably less per pupil on transportation services ($151.50) than other cities ($261.29) or the national average ($252.82).

Finally, Philadelphia spends relatively little for food services or student activities compared with other cities or with the nation. These reflect net costs to the schools, offset by student fees, cash sales and/or federal subsidies. The low net costs in Philadelphia suggest that the school system operates these activities more efficiently than other public school systems, urban and nonurban.

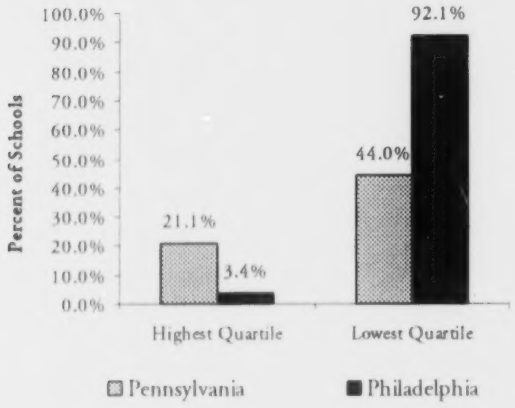
There is little in these statistics to suggest that Philadelphia uses its resources very differently from the typical school system nationally. And while there is some criticism nationally about how all school systems use their money, there is little in these data to indicate that Philadelphia should be singled out for how it spends its resources.

E. Comparing How Philadelphia Performs

The performance of schools throughout Pennsylvania, including in Philadelphia, was also examined. Results indicate that the Philadelphia Schools score well below state averages. In 1995-96, an average of 21.1% of the schools in Pennsylvania had at least 25% of their students in the highest quartile—as

expected—compared with only 3.4% of schools in Philadelphia. By contrast, an average of 44.0% of the schools statewide had at least 25% of their students in the lowest quartile compared with 92.1% of the schools in Philadelphia. (Figure 3)

Figure 3. Percent of Schools in Philadelphia and Statewide with a Quarter or More Students in the Highest and Lowest Achievement Quartiles (1995-96)[15]



Data on student achievement statewide were examined further to determine whether the variables described in the research review (i.e., poverty, race and funding) "explained" or "predicted" student achievement levels. School-by-school data on the Pennsylvania System of School Assessment (PSSA) were used for each LEA in the state. Achievement was measured as the percentage of schools where more than 25% of 8th grade students scored in the bottom quartile in reading and math.

A multiple regression analysis was conducted to "account for" or "predict" student achievement in the Commonwealth[16]. The analysis indicated that the combination of poverty, race and per pupil spending accounted for or explained a statistically significant portion (37.3%) of the variation in reading and math achievement scores throughout Pennsylvania.

Tests were then conducted on each variable separately. Results showed that the percentage of poor students in the school was the strongest predictor of low achievement, consistent with other similar research, followed by average per pupil spending and the percentage of minority students enrolled. In other words, the higher the student poverty rate, the higher the percentage of low achieving students; the lower the per pupil spending, the lower the achievement; and the greater the proportion of minority students, the higher the percentage of students in the lowest quartile.

The analysis not only accounted for a statistically significant portion of student achievement in Pennsylvania's public schools, but it also indicated that Philadelphia students achieved at a predictable level in reading and math given the city school's poverty, funding and racial complexion. The regression predicted that 94.2% of Philadelphia's schools in 1995-96 would have more than 25% of their students in the bottom quartile, compared to the actual level of 92.1%.

There is considerable evidence that since 1995 many of the educational reforms put into effect by the Philadelphia Public Schools are producing results. The district showed an average five percentage-point gain between 1995-96 and 1996-97 in the proportion of students scoring at the basic level or above on the

Stanford Achievement Tests (SAT-9). Some 92 schools had more than a five-point gain at the basic level, and over half of these had more than a 10-point gain (Philadelphia School District, 1998).

These increases were the result of new management efficiencies and tougher standards, implemented under the banner of *Children Achieving*—one of the most ambitious urban school reform efforts ever undertaken anywhere in the nation. Full-day kindergarten has now been implemented, accountability systems have been designed, graduation requirements have been raised, and professional development has been enhanced—indicating that the system is making more with what it has than ever before. Additional funding for initiatives like reduced class-size, preschool programs, summer schools, extended day and year instruction, and beacon schools would spur improvements faster and could reduce racial disparities in achievement.

The weight of the evidence leads to the conclusion that the Philadelphia Schools are more similar to other city school systems across the country than they are to any other district in Pennsylvania; that the Philadelphia Public Schools have the most severe needs of any school district in the Commonwealth; that, despite those needs, the Philadelphia Schools have fewer resources per child than the average district in the state; that the achievement levels in the Philadelphia Public Schools are low but predictable given their needs and funding; and that student performance is improving.

Chapter IV. Pennsylvania's Demographics and School Funding

The previous chapter established that the Philadelphia Public School District is substantially different in composition from the Commonwealth as a whole. Data also show, however, that other school systems in the state with similar demographics but smaller enrollments have similar funding needs, suggesting a broader pattern of differential educational opportunities.

A. How Pennsylvania Funding Compares

Data on Pennsylvania's total funding effort for K-12 public education can be found in studies by the U.S. General Accounting Office (GAO, 1997 and GAO, 1998) and by The Finance Project (Orland and Cohen, 1995). These two independent analyses studied school financing in all 50 states. The GAO looked at state efforts to reduce funding gaps between poor and wealthy school districts nationwide. The Orland report examined school spending patterns and state effort in school funding. (The numbers used in these studies are not necessarily comparable to each other or to those presented elsewhere in this report.)

1. U.S. General Accounting Office Studies. The GAO reports are two of the most comprehensive analyses ever done on state financing of schools across the country. The 1997 report shows that states can generally narrow gaps in school financing attributable to property taxes by pursuing one or more of three strategies: targeting state funds on poor districts; boosting the state's share of overall education funding; or requiring that poor districts raise their local tax effort. Data from the GAO report (1997) on Pennsylvania's efforts to narrow disparities showed that the state--

(a) Ranked 13th among all the states in average income per weighted student ($99,378)—a measure of state ability to fund education, p.51;

(b) Ranked 11th among all states in the extent to which total funding increased as the income of the district increased (an indicator of ability to raise income)—in other words, school funding in the state reflected wealth (fiscal neutrality score=0.300), p. 8;

(c) Ranked 18th among all states in the degree to which it targets state school funding on the poor (targeting score=-0.255), p. 76;

(d) Had an average local tax effort in poor school districts that was about the same ($36.67 per $1,000 of district income in the poorest 158 school districts) as in wealthy ones ($38.27 per $1,000 of district income in the wealthiest 96 school districts), signifying that local efforts were not closing funding gaps, pp. 13, 261;

(e) Provided about 43% of total school funding in the state from state sources in 1991-92, p.260;

(f) Ranked 33rd among all states in the extent to which its school finance policies ensured a level of funding assumed adequate to fund at least a minimum quality of education for every student (equalization effort=53.9), pp.16-17; and

(g) Could have provided $1,323 less per weighted student to the wealthiest school systems in the Commonwealth and $654 more to the poorest to achieve greater equity without raising either total state education spending or increasing state share, pp.262-263.

The second GAO report (1998) examined local, state and federal funding in states across the nation. Generally, the report showed that Pennsylvania—

(a) Derived 54.5% of its total revenues from local sources, 41.0% from state sources and 4.5% from federal sources (p.203); and

(b) Provided $1.31 per poor student for every $1 provided to each student, reducing the funding gap between the lowest and highest poverty districts from about 110% to about 32% (p.203)

2. The Finance Project Studies. The Orland and Cohen study examined somewhat different variables than the GAO reports. But both sets of reports found that Pennsylvania spends a relatively high amount on public education: $6,613 per child in 1992, an amount equivalent to $6,186 once dollars were adjusted for cost differences across states and to $7,106 in 1995 dollars. This placed Pennsylvania 9th in the nation in overall spending per child, compared with the geographically adjusted national average of $5,421 per child or $6,228 (1995).

The Orland and Cohen study examined other variables that GAO did not. First, it showed that, as in most states, the share of Pennsylvania's population actually attending public school has declined as the citizenry has aged, an indicator that can signal the degree of popular and political support for public education funding. In 1992, there were approximately 7.06 Pennsylvanians for every public school student in the Commonwealth, up from 5 in 1970. This compared with national averages of 6.00 citizens in 1992 and 4.42 in 1970. The higher ratios are a two-edged sword: they mean that there are fewer people in the population with a child in school and a direct stake in supporting public education politically. But they also mean that there are more taxpayers to support public schooling in Pennsylvania than there are nationwide. Pennsylvania has the 3rd highest ratio of adults to children in the nation.

Second, the report indicated that real (inflation adjusted) per capita income in Pennsylvania has grown faster than the national average. The average per capita income in Pennsylvania increased from $12,570 in 1969 to $19,638 in 1991, a jump of 56.2%, compared with the national increase of 51.9%. This suggests that the state has a higher capacity to fund public education adequately—should it choose to do so—than most other states. In 1991, Pennsylvania's per capita income ranked 16th in the nation.

B. How Pennsylvania Performance Compares

Pennsylvania's academic performance in meeting the National Education Goals passed by Congress can also be compared with other states with data from a number of other national reports, including those by the National Education Goals Panel, Kids Count, the National Assessment of Educational Progress (NAEP) and others.

1. National Education Goals Panel. Data from the most recent National Education Goals Panel Report (1997) show that Pennsylvania—

(a) Showed no progress between 1990 and 1995 in improving high school graduation rates, which remained at 90% during the period (p.228).

(b) Showed no progress between 1992 and 1994 (the years reported) in improving dropout rates, which remained at 4% during the period (228).

(c) Showed no progress between 1992 and 1994 (the years reported) in the percentage of students (32% and 30% respectively) who met Goals Panel's reading standard (p.228).

(d) Showed no progress between 1992 and 1996 (the years reported) in the percentage of 4th grade students (22% and 20% respectively) or the percentage of 8th grade students (17% and 22% respectively) who met Goals Panel math standard (p.228).

(e) Improved between 1991 and 1997 in the number of Advanced Placement examinations receiving a grade of 3 or higher (p.229).

(f) Declined in the percentage of high school teachers between 1991 and 1994 (the years reported) who hold a degree in the field they were teaching (p.229)

(g) Increased in the percentage of student disruptions between 1991 and 1994 (the years reported) p.231.

(h) Showed no progress between 1991 and 1994 (the years reported) in teachers' or principals' perceptions of parental involvement (p.231).

2. Kids Count Data Book. Data from the most recent Kids Count study conducted by the Annie E. Casey Foundation (1997) show that Pennsylvania—

(a) Is comparable to the nation in the percentage of 3 to 5 year olds in 1993 not enrolled in nursery school or kindergarten—40% (p.110).

(b) Is comparable to the nation in the percentage of 4th graders in 1994 scoring below basic reading levels (39% vs. 41%) p.110.

(c) Had slightly fewer 4th grade students in 1996 scoring below basic math levels (32% vs. 38%) p.110.

(d) Dropped from 19th in the nation in 1988 on the composite indicator of child well-being to 27th in the nation in 1997 (pp160-161).

3. National Assessment of Educational Progress. These data provide some of the most comprehensive and comparable results of student performance by state. NAEP reading results are not yet available for 1996, but the NAEP math testing (1997), however, indicates that Pennsylvania—

(a) Had a 4th grade math composite score of 226 in 1996, compared with the national average of 224, placing them in a tie for 15th place among 43 participating states (p.26).

(b) Increased 4th grade NAEP results by 2 average scale score points between 1992 and 1996, compared with the national average increase of 4 points over the same period (pp26, 28)

(c) Increased the percentage of 4th grade students who scored at the basic level or above from 65% in 1992 (compared with national average of 57%) to 68% in 1996 (compared with national average of 62%) p.49.

(d) Had only 14 states with lower 4th grade math composite scores for African American students (199), compared with a national average of 200 (p.113)

(e) Had only 27% of 4th grade African American students scoring at basic levels or above, compared with the national average of 32% (p.114).

4. Education Week. The periodical *Education Week* (1998) published a national overview of urban schools and states comparing performance and funding, finding that Pennsylvania—

(a) Ranked as having the third highest discrepancy of any state in the 4th grade achievement levels (on NAEP) of urban and nonurban school districts (p.11).

(b) Had 21% of its urban elementary school teachers teaching in classes with less than 25 students and 50% of its nonurban elementary school teachers in classes with less than 25 students (p.60).

(c) Ranked fifth of any state in its tax effort devoted to public elementary and secondary education (p.86).

C. Pennsylvania Funding, Race and Poverty

This section presents original analyses of data compiled by the Pennsylvania Department of Education on funding, minority enrollment, poverty and achievement. The first part looks at the range in per pupil spending in Pennsylvania. The second and third parts examine spending and student racial characteristics, a variable that neither the GAO nor the Finance Project studies probed.

1. Disparities in Per Pupil Spending in Pennsylvania. Previous chapters of this report indicated that the average per pupil expenditure in Pennsylvania was $7,260 in 1995-96 including the Philadelphia Schools, and $7,314 excluding Philadelphia. The range in total funding per pupil across the Commonwealth, however, is relatively wide. The highest average per pupil expenditure in Pennsylvania was $12,581 in the Radnor Township School District in 1995-96, and the lowest was $4,324 in the Juniata County Schools, a difference of about 3:1 or $8,257. Some 167 LEAs in the state (or 33.4%) have per pupil expenditures above the statewide average, and 333 LEAs (or 66.6%) fall below. The disparities are similar to ones identified some years ago by Cooley (1989).

2. State Aid to School Districts Based on Poverty. Pennsylvania does make a modest effort to distribute its state aid to local school districts so as to mitigate the effects of poverty and lessen some disparities in funding. The General Accounting Office report (1997) gave the Commonwealth a +0.255 rating[17] for the degree to which the state's funding formula was distributed on poverty. An analysis conducted for this Great City Schools report shows that the basic correlation between state funding and a district's free and reduced price eligibility rate was +0.601, meaning that the higher a district's average student poverty, the higher the state allocation to that district[18].

Pennsylvania's targeting on poverty lessens the disparities in per pupil expenditures across the Commonwealth but does not eliminate them. Table 6 shows the effects of the state's efforts in 1991-92 (based on the 1997 General Accounting Office analysis of Pennsylvania's spending) The results show that the formula that the Commonwealth had in place in 1991-92 reduced per pupil spending disparities that would otherwise exist from about 142% to 32%--still leaving a gap of some $1,862 per pupil (see Table 6). In other words, the state does provide Philadelphia with more aid than it otherwise would without the targeting, but the city remains the victim of deeper disparities in the statewide system.

The reader should note that the state has substantially revised its funding formula since 1991-92, resulting, according to some, in far greater funding gaps than those shown in Table 6.

Table 6. State and Local Funding Distribution in Pennsylvania (1991-92)

Mean Funding Per Weighted Pupil

Funding Source	Statewide	Poorest LEAs	Wealthiest LEAs	Disparity Ratio
Local	$3,653	$2,371	$5,733	2.42
State	$2,753	$3,441	$1,941	0.56
Total	$6,406	$5,812	$7,674	1.32

Source: U.S. General Accounting Office (1997)

3. Minority Student Enrollment in Low Spending Districts. Disparities in total per pupil funding across the Commonwealth also appear to be affected by race. Table 7 presents data on enrollments by race and average per pupil expenditures (APPE) statewide. Results show that 57.3% of all African American, Hispanic and Asian American students in Pennsylvania are enrolled in just six school districts with per pupil expenditures below the statewide average and with an enrollment of more than 50% minority. Fully 70.0% of all minority students in the state go to school in districts with an average per pupil expenditure below the statewide average.

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Table 7. Percentage of Minority Students in Pennsylvania Enrolled in High and Low Spending School Districts (1995-96)

	Percent of Minority Students in State Enrolled in LEA's With APPE Above Statewide Average	Percent of Minority Students in State Enrolled in LEA's With APPE Below Statewide Average
Percent of Minority Students in State Enrolled in Majority Minority LEAs	13% N=8 LEAs	57.3% N=6 LEAs
Percent of Minority Students in State Enrolled in LEAs Between 50%-25% Minority	6.0% N=13 LEAs	2.1% N=6 LEAs
Percent of Minority Students in State Enrolled in LEAs Under 25% Minority	11.0% N=172 LEAs	10.6% N=295 LEAs
Totals	30.0% N=193 LEAs	70.0% N=307 LEAs

Source: Pennsylvania Department of Education

Only 30.0% of Pennsylvania's minority students attend schools where the per pupil expenditure is above the statewide average. Over half of those students (17.0%) are enrolled in school districts with enrollments that are more than 50% white.

4. Combined Effects of Poverty and Race. The distribution of state aid to poor districts in Pennsylvania appears less equitable when race is taken into account. Each school district in the Commonwealth was examined to determine: (a) it's actual allocation from the state and (b) its predicted allocation based solely on poverty. This analysis involved a simple statistical regression test using state funding (excluding local and federal aid) to each LEA as the dependent variable and district poverty (based on free and reduced price lunch eligibility) as the predictor or independent variable. A state aid allocation for each LEA was then predicted on the basis of that LEA's rate of free and reduced price lunch eligibility. (The relationship is both positive and moderate in strength). The next step involved counting the numbers of LEAs whose actual state allocation rose above what was predicted on the basis of their poverty and the numbers of LEAs whose actual state allocation fell below what was predicted. The final step looked at the racial composition of the LEAs that fell above and below their predicted state allocations.

Table 8 shows the results. Some 257 LEAs in the Commonwealth received state allocations above what would be predicted on the basis of their free and reduced price lunch eligibility rates, and 243 LEAs received less than their rates would predict. Some 11 of the 14 LEAs (78.6%) in the Commonwealth with majority minority enrollments (i.e., above 50% minority) had actual state allocations below what was predicted on the basis of their poverty. Another 16 of the 19 LEAs (84.2%) with enrollments between 25 and 50% minority had actual state allocations below their predicted levels. Conversely, 216 of the 467 LEAs (46.3%) with enrollments that were less than 25% minority received state allocations that were below predicted levels.

An LEA's chances, then, of having a state allocation that helped compensate for the effects of poverty in the district depended in large measure on the racial composition of that district. The more heavily minority the enrollments of a school district, the less likely that its poverty would be offset by state aid.

To test further the effect of race on state aid, a second multiple regression procedure was conducted, using the actual state allocation to each district as the dependent variable and districtwide poverty as the independent variable, as before. A second independent variable consisting of the minority enrollment of each LEA was then added as another independent variable or predictor. The difference between the values predicted by the first regression and by the second regression is the effect of race on the state's allocations. Table 9 summarizes the results.

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Table 8. Number of School Districts Above and Below Predicted Poverty Allocations by Race (1995-96)

	Above Predicted State Allocation	Below Predicted State Allocation	Total LEAs
Number of LEAs with Enrollment Above 50% Minority	3 LEAs	11 LEAs	14 LEAs
	21.4%	78.6%	
Number of LEAs with Enrollment 25% And 50% Minority	3 LEAs	16 LEAs	19 LEAs
	15.8%	84.2%	
Number of LEAs with Enrollment Below 25% Minority	251 LEAs	216 LEAs	467 LEAs
	53.7%	46.3%	
Total LEAs	257 LEAs	243 LEAs	500 LEAs
	51.4%	48.6%	

Source: Pennsylvania Department of Education and Council of the Great City Schools

Districts whose enrollments are majority minority and whose poverty levels would predict their receiving a per pupil allocation from the state of $4,347 would more likely see an average allocation of $3,092, a difference of $1,255 per child. (These districts have an actual allocation of $3,593 per pupil). Districts whose enrollments were between 50% and 25% minority and whose poverty levels would predict their receiving a per pupil allocation from the state of $3,720 would more likely see an average allocation of $3,330, a difference of $390 per child. (These districts have an actual allocation of $2,700 per pupil). And districts whose enrollments are less than 25% minority and whose poverty levels would predict their receiving a per pupil allocation from the state of $2,894 would more likely see an average allocation of $2,895 a difference of $1 per child in the opposite direction. (These districts have an actual allocation of $2,758 per pupil). Statewide, a district's state allocation could be expected to decline by an average of $250 per child on the basis of race.

Philadelphia whose poverty level would predict its receiving an allocation from the state of $4,238 per pupil sees its allocation reduced by $1,398 to $2,840 per pupil due to its racial composition. The city's actual state allocation was $3,548.

Table 9. Effects of Race on State Per Pupil Allocations

Racial Composition of LEAs	Actual State Revenue	Predicted State Revenue (Poverty/Race)	Predicted State Revenue (Poverty)	Effect of Race
LEAs with Enrollment Above 50% Minority	$3,593	$3,092	$4,347	-$1,255
LEAs with Enrollment 25% And 50% Minority	$2,700	$3,330	$3,720	-$390
LEAs with Enrollment Below 25% Minority	$2,758	$2,895	$2,894	+$1
State Totals	$2,909	$2,962	$3,202	-$250

Source: Council of the Great City Schools

In other words, the Commonwealth's funding formula partly compensates LEAs for the effects of poverty unless the district has a high percentage of minority students (over 50% minority). When it does,

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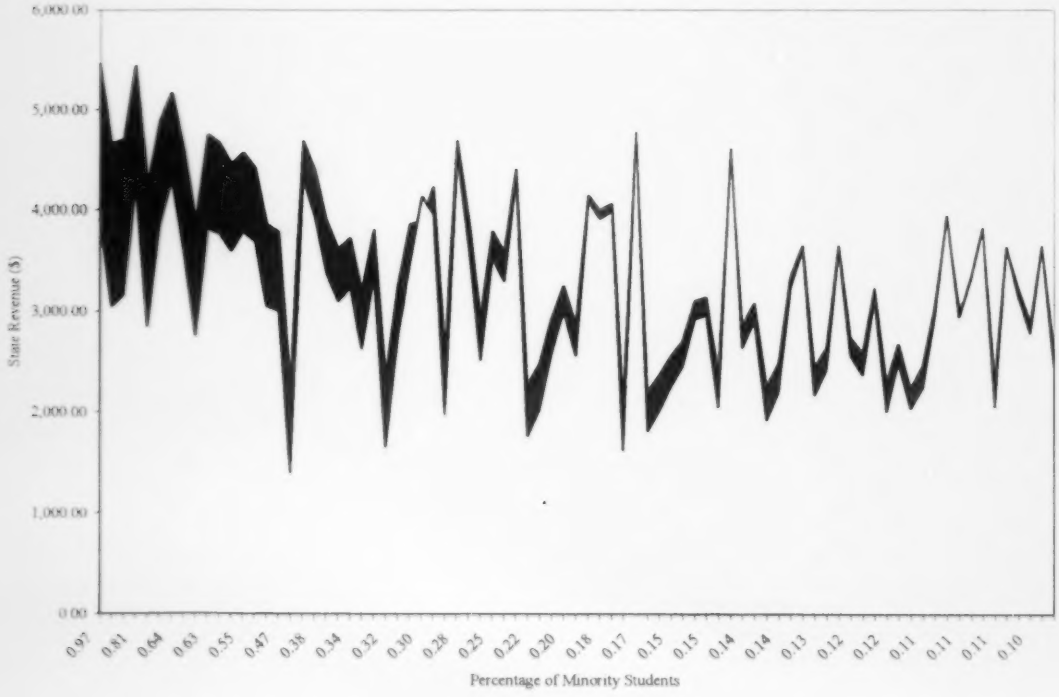
then the LEA can expect a lower state allocation, anywhere from $1,613 in the case of Chester-Upland to $719 less in the case of Allentown. Conversely, when a district has a low proportion of minority students, then it can expect an allocation from the state that breaks even (at an average of $1 per pupil) for its poverty.

Figure 4 shows the relationship graphically. The thickness of the line reflects the effect of race on the per pupil allocation of each LEA. The top of the line is based on allocations determined by knowing only the LEAs' free and reduced price lunch eligibility rates. The bottom of the line is based on allocations determined by knowing both the LEAs' poverty and racial composition. The difference between the two predicted lines—or its thickness--is the effect of race on the actual state per pupil allocation. Districts at the far left hand side of the graph—where the line is thickest—are LEAs whose enrollments are more heavily minority; those to the right are LEAs with smaller percentages of minority students.

Put most simply, the state's formula for distributing school aid to correct for poverty over-adjusts for school districts with few students of color and under-adjusts when there are many.

Figure 4. Effect of Race on Per Pupil Allocations from the State



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Chapter V. Adequacy of Commonwealth Funding for Philadelphia

The central question posed by this report is whether the Philadelphia Public Schools are adequately funded and what level of funding would be considered adequate. There are few school finance models available to answer this kind of question, a problem the General Accounting Office acknowledged in its own work. Instead, most existing statistical models are devoted to estimating funding equity and do not attempt to calculate how much funding would be necessary for children to achieve at some specified level or standard. The GAO's work, for instance, relies on the ratio of school taxing capacity to school revenues, which measures "effort" but leaves the question of "results" untouched.

Most existing school finance models assess adequacy with an inventory or "input" approach to funding, which counts the cost of items needed to teach each child to a specified standard. This approach is sometimes referred to as "opportunity to learn" standards. Such inventories include the costs of professional development, books, facilities, materials, technology, teachers and the like. Unfortunately, there is little agreement on either the menu of items needed for an adequate education or their costs.

The Council of the Great City Schools has developed an alternative approach to assessing adequate school funding, one that we recommend as the basis for an overhaul in Pennsylvania's school funding formula. The approach uses a standards-based or "output" orientation rather than an inventory of inputs. In brief, the model measures financial adequacy based on the resources of the highest performing school districts in the Commonwealth after adjusting for the needs of the students[19].

This new approach is used here to assess the adequacy of the Commonwealth's funding formula to provide all LEA's with a fairer distribution of funding, and to serve as the basis of any possible remedy. Its appeal is that it is simple and is based on a definition of adequacy grounded on academic performance, not poverty or wealth. It is a more intuitive approach to answering the question, "What resources does it take for the highest performing school districts to get the results that they do?" And it uses commonly accepted adjustments for the higher costs of educating children who are poor, limited English proficient, and disabled.

The definition of adequacy used here is straightforward: the amount of funding provided to students and schools in the highest performing public school systems in the Commonwealth. And the model for calculating adequacy uses five basic adjustments.

A. Determining the Costs of Meeting High Needs

The first step in determining adequacy involves calculating the "virtual enrollment" of school systems based on the number of children with special needs. This report uses a system based on U.S. General Accounting Office (GAO) weights: regular student (1.0), poor student (1.2), and student with physical or mental disability (2.3). Two additional weights are also used: limited English proficient student (1.1) and student with other less severe learning disabilities (1.15). Counts of students from each category are multiplied by these weights to arrive at a "virtual enrollment" for each school district in the Commonwealth. The actual enrollment of Philadelphia would change, for example, from 212,881 students to an adjusted enrollment of 262,736 (+23.4%). The enrollments of all other school systems in the state are adjusted upwards in the same fashion.

The model is flexible enough at this point to make a second set of adjustments based on each LEA's concentration of poverty, or on district size, or on desegregation costs that might not have otherwise been accounted for[20].

B. Determining the Costs of High Achievement

The second part of the Council's model establishes a basic foundation of funding for all LEAs. It is based on the total per pupil expenditures of the highest achieving school systems in Pennsylvania. The

assumption behind this approach is that each LEA in the state ought to have the same basic resources as the highest achieving school systems if high achievement is indeed the goal of the Commonwealth.

The first step in calculating the foundation involves ranking all local educational agencies in the Commonwealth by their achievement scores. This report uses 8th grade reading and math scores on the Pennsylvania System of School Assessment (PSSA), but other grades and subject areas could be used without substantially altering the allocations. High achievement is defined in this proposal as any LEA where 50% or more of the schools in a district have at least 25% of their students tested scoring in the highest quartile[21]. Some 33% of the districts in the Commonwealth met this definition.

The second step entails calculating the average per pupil expenditure of the high performing school districts. The result—based on the 33% highest performing LEAs in the state—is a per pupil expenditure of $7,630 (compared to the statewide average of $7,260). The foundation becomes $7,630 per child.

To validate this approach, the per pupil expenditure in the highest achieving 5% of school districts was determined to be $8,892; and in the lowest performing 5% to be $7,368—including Philadelphia with its 1995-96 per pupil expenditure of $6,860.

Step three in the model requires multiplying the new foundation amount ($7,630) by the readjusted or "virtual" student enrollment of each LEA and dividing the product by the actual enrollment, except that none of the 33% high performing districts would be adjusted upward or downward.

C. Determining Local and State Shares of Education Costs

Finally, the model determines the respective shares of the "adequate" per pupil expenditures paid for by the local school district and by the state. Here, the assessed property values of the district are used as an indicator of district wealth. Districts with assessed property valued above the statewide average would be required to absorb 35% of the adequate funding level. Those with wealth below the statewide average would be required to raise 20%. If a district chose to raise more, it would not be penalized. The Commonwealth, then, would be responsible for providing the remainder of the per pupil expenditure after subtracting federal allocations.

Philadelphia's total funding, according to this approach, would increase by 38.9% from its current level of $1,460,363,660 or $6,860 per pupil to $2,027,904,406 or $9,526 per pupil—in order for the city's resources to be equivalent to those in the highest performing school districts in the state. The total additional cost to the state of making the same adjustments for all but the highest performing 33% of the districts would be about $2.6 billion or about 50% above 1995-96 levels. (See next chapter for discussion of phase-in). The model assumes that Philadelphia's federal allocation of $566 per pupil, or $120,490,646, would stay approximately the same.

The model could also result in less reliance statewide on a regressive local property tax, thereby lowering the degree to which poor communities indirectly subsidize the artificially low tax rates of wealthier areas. The model makes no recommendations on the use of the local property tax *per se*, but instead mitigates its effects. Approximately 52 LEAs in the Commonwealth would need to raise their local share of public school funding according to the model's assumptions; but approximately 444 LEAs would feel some local tax relief. About 326 LEAs in the Commonwealth could realize increases in state aid, while no LEA would see its state aid decreased. And one-third of the LEAs in the state would see no changes in their state allocations.

D. Determining Use of Resources

The model for financial adequacy has not been fully developed at this point to allow precise statistical estimates for where additional resources would be devoted. Subsequent work will follow this report to provide more precise guidance. A reasonable starting point would be the spending patterns of the highest achieving school systems, except that the data in this report indicate that most schools spend their resources in approximately the same ways. It may be, however, that urban school spending should not

reflect national averages, but should devote more than average resources into direct classroom use given the differing levels of poverty.

Should this be the case, then additional moneys devoted to Philadelphia might be best used on such items as—

- Hiring additional teachers to reduce class size well- below statewide averages to handle the effects of poverty presented to teachers in their classes;
- Raising average teacher salary to allow the city to compete better for the new teachers that would be needed to reduce class size—in exchange for stiffer accountability for performance (see next section);
- Mandatory summer school or extended-day programs for students who do not meet academic standards in the requisite time;
- Provide all-day kindergarten and full-service pre-school programs throughout the city to mitigate the effects of poverty on brain development and early learning;
- Extensive professional development for teachers and staff on implementing high-standards curriculum, assessments, classroom management, technology and other areas;
- Creation of additional beacon or community schools to allow more effective provision of social and health services to students;
- Purchase of instructional technology and computers for every classroom in the city schools and professional development for teachers in their use;
- Establishment of additional small schools or house schools to provide more individualized student attention; and
- Develop stronger grade-by-grade high standards curriculum and assessments.

E. Accountability for Results

This portion of the model also requires additional work, but its focus on high achievement and results and the results needed to produce them provides a way of thinking about how accountability for those results might be developed and how fast. It is reasonable for both the state and the taxpaying public to know how fast and to what extent improvements could be expected with any increase in investment. Tools could be developed from the adequacy framework presented here that would predict statistically the speed at which the Commonwealth could expect achievement increases given the speed and degree to which adequate funding was provided.

For instance, stiffer accountability for results could be designed for management and teachers alike as resources became available grade-by-grade. And statistical and political expectations for results could be determined on the speed of the phase-in. The public would have a right to know what those expectations were; when results could be anticipated; and what sanctions would be levied should expected results not be forthcoming.

Chapter VI. Summary and Conclusions

This report attempts to answer five questions: (1) how poverty, race and funding affect achievement; (2) how Philadelphia compares to others; (3) how Pennsylvania compares with other states; (4) how much money might be adequate for Philadelphia students to achieve at the highest levels in the state; and (5) how might the state's funding formula be altered to provide more adequate school financing.

The data showed that Philadelphia is much more like other large cities across the country than like any other school system in Pennsylvania, except perhaps Pittsburgh and Chester-Upland. The data also demonstrated that the academic performance of Philadelphia students was low but predictably so (i.e., statistically predictable), given the district's enrollment of poor, limited English proficient and disabled students and its level of resources. And the report presented data on trends and characteristics in Pennsylvania's education funding based on national school finance reports and original analyses.

This report contains a number of key findings. First, it demonstrates—once again—the strong relationship between student achievement and poverty, race, and funding. The connection is universal but more evident in urban centers, where poverty and minority enrollments are most concentrated and where investment is lower. The data in this report showed clearly that poverty, race and funding accounted for a significant portion of the achievement differences among school districts in Pennsylvania.

Second, the report clarifies the nature and locus of the imbalances in resources available for educating children in Philadelphia compared with children in the suburbs and elsewhere in the state. Not only are the needs of children higher in Philadelphia and in the state's other poor and heavily minority communities, but there are fewer resources available to address them. The combination of high needs and low resources underlie the larger gaps in achievement found throughout the state.

These differences in needs and resources between Philadelphia and its suburbs are particularly revealing. The average family in the Philadelphia suburbs will have spent $2,337 more on its child's education by the time the child enters kindergarten than the average family in the inner city will—due solely to differences in average family income (see Table 4). The amount is large enough to purchase a substantial number of children's books, learning aids, instructional toys, and other items that will help increase children's letter and number recognition, vocabulary, and abilities to categorize, name and sort. The differences in what is provided for the learning of the suburban child and for the Philadelphia child do not include differences in resources for medical care, clothing, day care, food and nutrition, and housing. Recent research on brain development is unequivocal about the lasting value of these resources on childhood neurological growth and learning capacity (Shore, 1997).

Third, the data in this report were also clear about how the Philadelphia Public Schools spend their scarce resources. The analysis presented here is the first to compare an individual city school system's spending with that of other large cities and the national averages using the same definitions. The results show that Philadelphia spends its money in ways that are quite similar to other major urban school systems and to school districts in nonurban settings nationally. The differences that do exist appear to be readily explainable and can be attributed to a more senior teaching force and to older facilities. Nothing in the data suggests that low student achievement in the city is related to inappropriate or unusual patterns in how the district allocates its resources.

Fourth, the data indicate that the achievement levels of students in the Philadelphia Public Schools are low, but predictably low given the system's concentrated poverty and need. It is also clear, however, that performance has improved substantially since 1995-96 due to the many reforms instituted by the city. These improvements should help renew confidence that additional resources would be well-spent and could spur improvements at a faster rate.

Fifth, the General Accounting Office's reports and the Council's statistical analyses indicate that Pennsylvania targets its allocations to some degree on the poorest students; in other words, there is a

positive but moderate correlation between state allocations and student poverty. Still, large gaps remain among school systems in available resources. The problem appears to be twofold—

(a) The degree of targeting in the state aid formula is insufficient to close the gaps entirely. While lessening the gaps, the state formula leaves in place a system where the highest spending school district in the state has almost three times more resources than the lowest spending district. This breach in opportunity undermines one of the central purposes of public education: providing children throughout the Commonwealth with an equal chance to compete in the world of work when they leave school. This report contends that creating a level playing field is central to the state's constitutional responsibilities, and a role that no one but the state can play.

(b) The manner in which the state addresses poverty has the effect of discriminating against students of color. The analysis presented here demonstrates that the likelihood of being compensated by the Commonwealth for the effects of poverty is lower in school districts with higher percentages of minority students. How can this be? This effect can happen when the degree of financial targeting is moderate as in Pennsylvania and the dollars are insufficient to compensate for poverty completely. And it can occur when the limited funding devoted to targeting the poor is distributed through a formula that benefits the poor in rural areas of the state but not urban areas to the same degree.

The distinction between urban and rural poverty is important because of the high degree of racial isolation in the state. Poor minority students in Pennsylvania are more likely, as this report demonstrates, to attend school in urban areas, whereas poor majority students are more likely to attend school in rural communities. The proceeds of the state formula are skewed toward poor students in rural areas, thereby negatively affecting poor students in urban areas—who are more likely to be racial minorities.

This pattern is not unfamiliar to other big city public schools nationally. Urban public school systems often face hostility from others in the state, funding that is constrained by political and demographic interests, and a largely unspoken aversion toward their racial complexion.

Finally, the report suggests the length of time that adequate funding would need to be provided before the performance of students in all grades would approximate the achievement levels of the highest performing school districts in the state. One year's adequate funding for next year's 12^{th} graders, for instance, could not be expected to produce achievement levels comparable to those of 12^{th} graders in high performing districts. On the other hand, twelve years of adequate investment in next Fall's incoming 1^{st} graders could. All other considerations aside, one would expect that Philadelphia School students would need twelve to thirteen years of adequate funding before achievement gaps with high performing districts in all grades would close.

This staggered effect of increased funding suggests that new investments could be phased in. One way of doing this would be to phase in funding by grade level, with the lower grades receiving the highest proportions of new monies. This approach would allow the state to stage its increases gradually and to spread the effects of the increasing amounts over time. Staggered increases might also allow the development and measurement of new systems to assess progress and to hold the system accountable for predetermined improvements in performance. And it might allow the thoughtful phase-in of such efforts as reducing class-size, additional preschool efforts, summer schools, extended day and year instruction and beacon schools that have strong research demonstrating their effectiveness.

An adequate funding level of $9,526 per child would eliminate—by the time each child graduates from high school—the investment gap this report identified as existing between Philadelphia and its suburbs. An accumulated over-correction of $8,159 over 17 years adjusts for the differences in family funding for educational experiences between birth and age 4 when a child's brain is so vulnerable and before the school has had the opportunity to intervene.

It should come as little surprise that there are substantial differences in achievement levels across the state, when the resources available to schools become an instrument of inequality rather than a solution to it. This report contends that state educational funding ought to close the disparities in family income rather

than reinforcing them. And in closing those gaps, funding should not be an artifact of racial composition. This report finds, however, that the current funding system of the Commonwealth of Pennsylvania is inadequate to address the issues of poverty; is inherently discriminatory towards racial minorities within the state; and is undermining the state's goal of providing to all students an equal opportunity for a quality education.

Many of these challenges have existed in the state of Pennsylvania for some time, made worse over time by the major revisions to the funding formula about six years ago. The gaps present the leadership of the state, however, with an important opportunity to correct.

Urban public school systems nationwide face many of these same issues to a greater or lesser extent. Their funding is frequently below what would be needed to offset the differing investments made in the learning of children from the inner-city compared with the investments made in children elsewhere. This report has been written to help improve understanding of how high standards and funding work hand-in-hand, but also to provide a new approach for linking the two critical components of urban school reform everywhere.

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Notes

[1] An opinion may be rendered under separate cover about the effects of either breaking up or taking over the Philadelphia Public Schools.

[2] Data for the nation based on 1992-93 figures; all other data are for 1995-96.

[3] The term "poverty level" in this and subsequent chapters refers to eligibility for federal free and reduced price lunch subsidies.

[4] Adequacy Index based on 1992-93 revenue data and is drawn from Council of the Great City Schools. *National Urban Education Goals-1992-93 Indicators Report*. Washington, DC, 1994. All other data from Table 1 are taken from *Education Week*. "Quality Counts '98: The Urban Challenge". Washington, D.C., 1998.

[5] National data based on 1992-93.

[6] Average Daily Membership (ADM) is typically measured as an average k-12 enrollment for a school district over a specified number of days or months. Enrollment is typically a single count of students in grade k-12 on a specified day. The terms yield similar but not identical results.

[7] The index is calculated by dividing the city's share of the state's total K-12 education expenditures by the city's share of the state's total K-12 enrollment eligible for a federal free or reduced price school lunch. Small differences between data presented on the Philadelphia Public Schools in Tables 1 and 2 are due to the use of different data sets and school years.

[8] Newark has an Adequacy Index of 0.36 but is not singled out because of its high per pupil expenditure in a high spending state and because of its state control.

[9] The Philadelphia Public Schools and the State Department of Education each report different free and reduced price lunch eligibility rates for Philadelphia because they use different sources of data. The Philadelphia Schools use a rate of 80% and the State Department uses a rate of 55%. The Philadelphia Public Schools have indicated that Jack Tinney, Administrative Assistant, Pennsylvania Department of Education, Division of Food and Nutrition approved the higher eligibility of 80%. This report uses 80% when comparing Philadelphia with others.

[10] *Current Expenditures*: expenditures for all current funds (e.g., operating, special education, federal projects, transportation, etc.) but excluding funds that are intended to be self-supporting such as food service.

Classroom Instruction: expenditures that include k-12 teachers, paraprofessionals and clerical personnel working with teachers in the classroom.

Books and Materials: expenditures that include textbooks, library books, audiovisuals, and instructional materials.

Auxiliary Instructional Services: expenditures include counselors, librarians and other support staff, and testing services.

Improvement and Development: expenditures that include curriculum development, instructional supervision, inservice and professional development of staff.

Special Education: expenditures that include teachers, paraprofessionals and clerical personnel providing services to handicapped students, including services contracted to outside agencies or private schools to which the district sends special education students.

Other Instructional Expenditures: expenditures that include services (excluding those for special education) contracted to outside agencies such as regional service agencies.

School Site Leadership: expenditures that include offices of principals and assistant principals.

Health and Attendance: expenditures that include physical and mental health staff and services such as nurses, psychologists, social workers, related paraprofessionals and clerical staff and materials.

Transportation: expenditures including staff, maintenance and operation of equipment, fuel, and contracts for transporting public school students even if a separate transportation fund is maintained; and that exclude expenditures related to the transportation of nonpublic school pupils.

Food Services: expenditures that include the net cost to the district of operating food services programs (which may be $0 if self-supporting); and that exclude expenditures offset by income from cash sales and state and/or federal subsidies.

Student Activities: expenditures that include the net cost to the district (may be $0 if self-supporting); and that exclude expenditures offset by gate receipts, activity fees, etc.

Other Student Service Expenditures: expenditures that include other student services (only net cost to the district).

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Board of Education: expenditures that include school board members salaries and expenses, election services, legal services, census, tax assessment/collection services, and similar Board services.

Executive Administration: expenditures that include offices of the superintendent, deputy, assistant, and area superintendents, including employee relations and negotiation services, state and federal relations services, and related services not listed elsewhere; but that exclude services for planning, research and evaluation, maintenance and operations, instruction, staff personnel, pupil personnel, statistics, data processing, business and school site leadership.

Central and Business Services: expenditures that include fiscal services (E.g., payroll, budgeting, accounting, internal auditing, etc.); facilities acquisition and construction services; central office support services (e.g., staff personnel, public information, planning, research, evaluation, statistics, data processing); and similar services not included elsewhere.

Maintenance and Operations: expenditures that include staff, equipment, and supplies for the care, upkeep, and operation of buildings, grounds, security, and other services; but that exclude expenditures for major equipment purchased from a special capital purchases fund, utilities, heating/cooling fuel.

Environmental Conditioning: expenditures that include fuel for heating and cooling plus all utilities except telephone.

Other Current Expenditures: expenditures that include all other current expenditures not reported elsewhere (e.g., telephone charges, fire insurance, professional liability insurance, short-term interest; but that exclude expenditures for community services, recreation services, and junior colleges.

Capitol Outlay: expenditures from any special capital outlay accounts for new and replacement buildings, vehicles, and other major equipment items; but exclude expenditures for capital outlay purchases otherwise reported.

Debt Retirement: expenditures that include payment on principle and payments to school housing authorities.

Interest Paid on Debt: expenditures that include payments on interest on long-term debts only.

Caution should be used with expenditure data collected even in comparable format. There are a number of expenditure models currently on the market that use standardized definitions for expenditures yet yield results that are not similar.

Source: Educational Research Service, "National Survey of School District Budgets", 1995-96.

[11] Data not available

[12] In completing its Educational Research Service Budget Survey, Philadelphia reported $0.00 for capital outlay. These expenditures are considered "off-budget" by the school district.

[13] The district reported federal revenue receipts of $3.46. This amount includes only those revenues that can be scored against the general operating budget. The Council of the Great City Schools estimates that total federal categorical aid to the city schools is about $566 per pupil.

[14] The difference between the $6,614.19 per pupil expenditure cited here and the $6,860 amount cited elsewhere in the text is due to differing databases and differing counts of federal revenues.

[15] Data in this figure include all 737 eligible schools in the state regardless of test participation rate.

[16] ANOVA of Reading and Math Achievement in Pennsylvania by Poverty, Race and Per Pupil Spending (1995-96)

Multiple R=0.610
R Square=0.373
Adjusted R Square=0.373
Standard Error=0.3645

Standardized Coefficients (Beta's):	Race	.072
	Poverty	.555
	Per Pupil Spending	-.086

[17] This is the elasticity of state funding in a district relative to district income adjusted for statewide differences in cost and need. An elasticity of 0 signifies no targeting of state funds to either poor or wealthy districts; a negative effort indicates that more state funding is provided to poor districts; a positive effort indicates that more state funding is provided to wealthy districts. Scores ranged from -1.007 in Nevada to +.296 in Wyoming.

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[18]

	Free/Reduced Lunch	Minority Rate	Revenue State	APPE Total
Free/Reduced Lunch	1.000			
Minority Rate	.351*	1.000		
Revenue from State	.601*	-.014	1.000	
Total APPE	-.221*	.231*	-.351*	1.000

* Statistically significant at 0.01 level (2-tailed)

[19] $\{ADM - [a + b + c + d]\} + \{(a)(w1) + (b)(w2) + (c)(w3) + (d)(w4)\} \times \sum x(1)x(i) / i = f$

where:

ADM=Average Daily Member of the Philadelphia Public Schools
a=Number of Free & Reduced Price Lunch Children in the Philadelphia Schools
b=Number of Limited English Proficient Children in the Philadelphia Schools
c=Number of Special Education Children in the Philadelphia Schools
d=Number of Learning Disabled Children in the Philadelphia Schools
w1=Weight for the Number of Free and Reduced Price Children
w2=Weight for the Number of Limited English Proficient Children in the Philadelphia Schools
w3=Weight for the Number of Special Education Children in the Philadelphia Public Schools
w4=Weight for the Number of Learning Disabled Children in the Philadelphia Public Schools
x1xi=Average Per Pupil Expenditure of the Highest Achieving School Districts in Pennsylvania where (i) is the number of such districts
f=adequacy

[20] The state court found that the appropriate cost of implementing Philadelphia's desegregation obligations, for instance, were $45.1 million in 1996-97. The model, as presented, does not explicitly include this amount.

[21] A preferable method of assessing district achievement would be to use performance levels like those used by Philadelphia and the National Assessment of Educational Progress (NAEP) or to use districtwide averages. The Pennsylvania State Department of Education, however, does not use performance levels and does not publicly report districtwide achievement averages on the PSSA. Instead, the state reports its achievement results to the public by quartile, school-by-school in each district.

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